Amend claims 7, 17 and 25 to read as follows (pursuant to 37 C.F.R. §1.121(c)(1)(ii), a marked-up copy of the amended claim on a separate sheet accompanies this amendment):

B2 7. (Amended) The method of claim 4 or 6 wherein the DNA binding domain is from a LexA protein.

B3 17. (Amended) The recombinant host cell of claim 14 or 16 wherein the DNA binding domain is from a LexA protein.

B4 25. (Amended) The chimeric nucleic acid of claim 22 or 24 wherein the DNA binding domain is from a LexA protein.

REMARKS

Claims 1-78 are pending in the subject application. Claims 38-78 have hereinabove been canceled, without prejudice. Claims 7, 17 and 25 have been amended. Therefore, the claims now under consideration are claims 1-37, as amended. Applicants respectfully request that the rejections of the claims be reconsidered and withdrawn in view of the above amendments and the following remarks.

Sequence Listing

On page 3 of the Office Action, the Examiner indicated that the sequences disclosed in Figure 17 must be labeled with a SEQ ID NO. The Examiner stated that this could be accomplished by amending the Brief Description of Fig. 17, which has been done above. Since these SEQ ID NOs were not present in the previously filed Sequence Listing, applicants have enclosed the following:

1. A computer readable form (CRF) copy of a new Sequence Listing in the form of a 3 1/2" diskette;
2. A paper copy of the new Sequence Listing, pages 1-7; and
3. A statement that the content of the paper and computer readable form are the same and include no new matter.

Applicants respectfully request that the Sequence Listing be entered and maintain that the application now complies with the sequence rules.

35 U.S.C. §112, second paragraph, Rejection

On page 4 of the Office Action, the Examiner rejected claims 7, 17 and 25 under 35 U.S.C. §112, second paragraph, as allegedly indefinite. In response to this rejection, applicants point out that the claims have been amended to refer to a DNA binding domain from the LexA protein (as opposed to DNA encoding the entire LexA protein). Therefore, applicants maintain that the claims are definite and respectfully request that this rejection be reconsidered and withdrawn.

35 U.S.C.§102(b) Rejection

On pages 4-5 of the Office Action, the Examiner rejected claims 1-37 under 35 U.S.C. §102(a) as allegedly anticipated by Ueki et al., PCT International Publication No. WO98/49284, published November 5, 1998. Applicants respectfully traverse this rejection.

The claims herein are directed to a method of determining the presence of a nuclear localization signal in a protein of interest. The method comprises: selecting a host cell for use in the method, wherein the host cell contains a nucleus having nucleic acid encoding a reporter gene therein and wherein the host cell has a first level of expression of the reporter gene; identifying a DNA binding domain and an activation domain for the reporter gene; constructing a chimeric nucleic acid encoding a fusion protein comprising the DNA binding domain, the activation domain, and a protein of interest, wherein elements of the fusion protein other than the protein of interest have no nuclear localization signals; introducing the chimeric nucleic acid into the host cell; and determining a second level of expression of the reporter gene

to determine the presence of a nuclear localization signal in the protein of interest. This claim requires that the "elements of the fusion protein other than the protein of interest have no nuclear localization signals". Ueki et al., on the other hand, merely state that the DNA that is transferred into the host include DNA encoding a transcription factor "from which the nuclear transportability has been eliminated". This does not disclose that all of the elements of the fusion protein other than the protein of interest should have no nuclear localization signals.

This is equally applicable to the claims herein to a recombinant host cell, a chimeric nucleic acid encoding a fusion protein, a vector comprising the chimeric nucleic acid, and kits comprising the vector.

In regard to claims 33-37, applicants note that the sequences of Ueki et al. differ from those disclosed herein for the modified LexA protein/nucleic acid by only 2 amino acid residues (protein) and 3 nucleic acid mismatches/1 nucleic acid gap (nucleic acid). However, these differences are not the result of sequencing error as suggested by the Examiner. These differences are the mutation generated by applicants to modify the LexA protein to no longer have a functional nuclear localization signal. This is clearly illustrated in Fig. 17, where the wild type LexA is identical to amino acids 153 to 163 of Ueki et al. and nucleotides 457 to 489 of Ueki et al.(note that the third nucleotide mismatch is irrelevant to the claimed invention). In accordance with the claimed invention, mutations have been introduced at nucleotides 469 and 475 of Ueki et al. to alter amino acid residues 157 and 159 of Ueki et al. to obtain a modified LexA protein that no longer has a functional nuclear localization signal. Thus, the mere changing of two amino acid residues and two nucleotides is not the result of sequencing errors and is in fact the basis for the claimed invention.

Therefore, applicants maintain that the claims are not anticipated by the Ueki et al. reference, and respectfully request that this rejection be reconsidered and withdrawn.

Drawings

Applicants have reviewed the Notice of Draftperson's Patent Drawing Review included with the Office Action. In accordance with MPEP §608.02(b), applicants will provide new, corrected drawings after a notice of allowance is issued for this application.

In view of the above amendments and remarks, applicants maintain that the claims as amended herein define patentable subject matter. A notice of allowance is therefore requested. Should any issues remain which can usefully be discussed by telephone, the Examiner is invited to contact applicants' undersigned attorney at the number provided.

Respectfully submitted,

2-13-02
Date

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I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231, on the date below.

2-13-02
Date

Susan J. Braman
Attorney Reg. No.: 34,103

U.S. Serial No. 09/435,774

Marked-Up Version of Paragraph(s):

Page 8, lines 12-13:

Fig. 17 illustrates the wild type LexA NLS (nucleic acid sequence SEQ ID NO:14; amino acid sequence SEQ ID NO:15) and the modified LexA NLS (nucleic acid sequence SEQ ID NO:16; amino acid sequence SEQ ID NO:17);

7. (Amended) The method of claim 4 or 6 wherein the DNA binding domain is from a LexA protein.

17. (Amended) The recombinant host cell of claim 14 or 16 wherein the DNA binding domain is from a LexA protein.

25. (Amended) The chimeric nucleic acid of claim 22 or 24 wherein the DNA binding domain is from a LexA protein.